

- Food
- Food Additive
- Cosmetic
- Quasi-drug



# Hokkaido Nanporo Tamogi Mushrooms

## 『Ceramide 3%』

Technical  
Data

### Natural Ceramide Extract from Irregular Size and Shape of Edible Mushrooms



Tamogi mushroom (Golden oyster mushroom) is an edible mushroom belonging to pleurotaceae and has been eaten by Ainu tribe for a long time. It is valuable that can be taken only during the short summer of Hokkaido. Development of artificial cultivation technology, it is available in the main supermarket in Hokkaido now, and it is also chosen for school meals of 38 prefectures out of 47 in Japan. It is cultivated in tightly controlled sterile environment and the best air conditioning control for the growth of mushroom. There is no use of pesticides. With the above qualified technologies, the ceramide is developed in joint research of Hokkaido University and Sapporo Medical University.

#### Expected Function

- ◎ Moisturizing, controlling moisture, retaining elasticity and anti oxidization of skin
- ◎ Improving skin barrier function (atopic dermatitis inhibitory effect)
- ◎ Inhibition melanin pigments (whitening effect)

#### Recommended Dosage

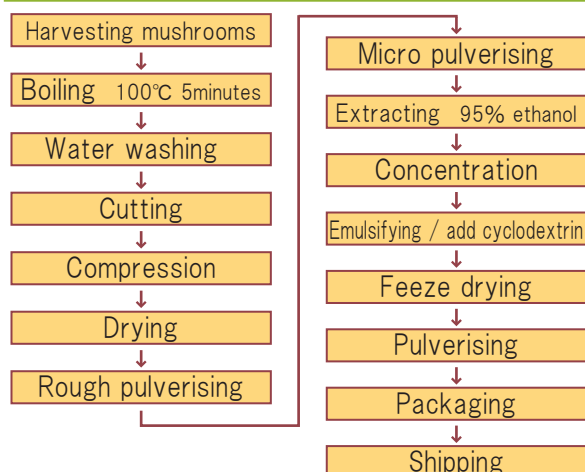
- ◎ 60mg /day\*

\* Katsuyuki Mukai: Moisturizing and cosmetic action of ceramide foods, foundation and application of ceramides-p.82 Ceramide Research Group edition

#### Uses

- ◎ Cosmetic (moisturizing, elasticity, whitening)
- ◎ Beauty supplements
- ◎ Food, sweets and drinks that have beauty function
- ◎ Hair-care products

#### Production Process



#### Indication for Cosmetics

Indicated Name	Extract of Tamogi Mushroom
INCI Name	Pleurotus Cornucopiae Extract

#### Display Name Example

- ◎ Cyclodextrin, Tamogi Mushroom Extract

#### Quality Standard Composition

Material	Cyclodextrin, Tamogi mushroom extract
Glucosylceramide	Over 3% (HPLC-ELSD method)
Property	Light yellow to yellow powder
Viable counts of bacteria	Less than $1 \times 10^3$ /g
Fungus number	Less than $1 \times 10^2$ /g
Coliforms	Negative
Heavy metal (Pb)	Less than 0.05ppm
Heavy metal (Cd)	Less than 0.01ppm
Heavy metal (Sn)	Less than 0.01ppm
Arsenic (As <sub>2</sub> O <sub>3</sub> )	Less than 0.1ppm

#### Chemical Analysis Value(/100g)

Energy	550	kcal
Moisture	0.3	g
Protein	3.4	g
Fat	32.2	g
Carbohydrate	61.7	g
Ash	2.4	g
Sodium	16.6	mg

\*Numbers are just an composition example.  
It does not guarantee the content of the product.

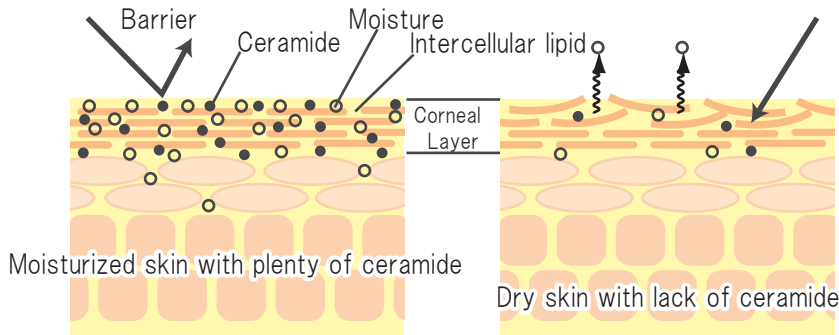
#### Other

Quantity	1kg
Shelf life	3 years from the production date
Storage condition	Keep in cool dry place, and avoid direct sunlight.

#### Company Information

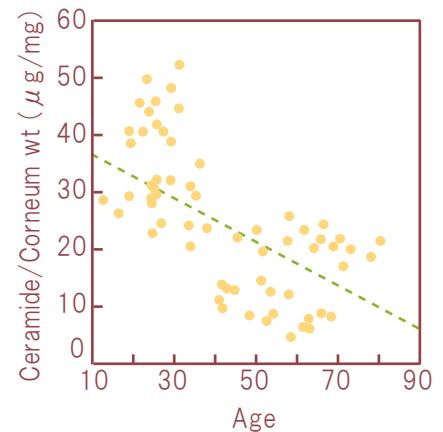
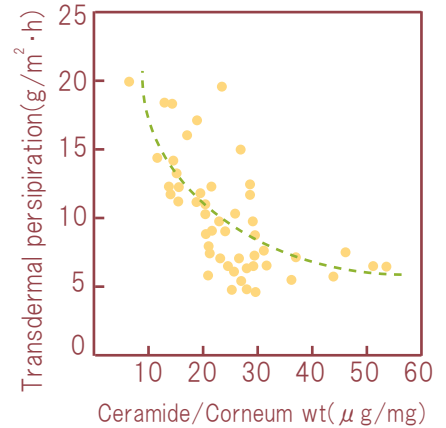
## ■ Ceramide (glucosylceramide)

Ceramide improves skin moisture and prevents evaporation of the moisture, skin irritation and infection from germs. By the above, it lightens dry skin and skin problems, keeps healthy moisturized skin, and prevents increasing the number of melanin pigment that is the main cause of spot and wrinkle on skin.



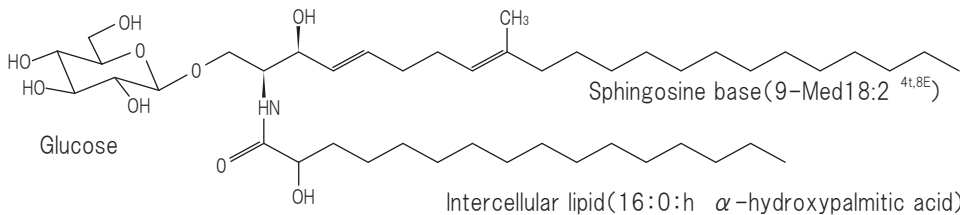
## ■ Ceramide decreases as we get old

Number of ceramide decreases as people get old. Barrier function of skin also decreases year after year.



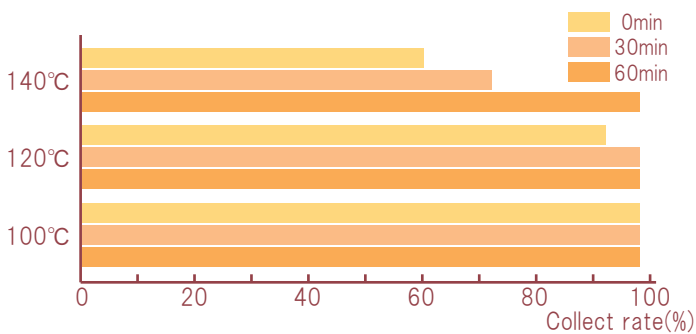
## ■ Low-molecule Structure

Ceramide from Tamogi mushrooms has low-molecule structure with mass number 727.



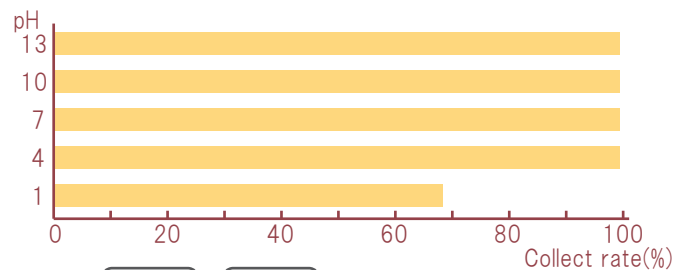
## ■ High Stability to Heat

Heating 3% glucosylceramide powder for thirty minutes, and 60 minutes at 100°C, 120°C and 140°C to determine the quantity of solvent extracted glucosylceramide by HPLC. As a result, the glucosylceramide powder has a very high stability to heat up to 120°C.



## ■ High Stability in Over pH4 Water Solution

The aqueous solution of 0.1% glucosylceramide was adjusted to pH 1 to 13 with HCL and aqueous NaOH, and left at room temperature for 12 hours. Then, glucosylceramide was subjected to solvent extraction and quantified by HPLC. As a result, it was found that 30% was decomposed at pH 1, but extremely stable at pH 4 or higher.



## ■ Moisturizing effect data and patent for atopic dermatitis



Study of oral ingestion of ceramide in hairless mice. Since effective results are obtained in \*1, study applied to atopic dermatitis patients and \*2 we have obtained a patent \*3 for the treatment of dermatitis and skin moisturizing agent.

- \* 1 The Japanese Journal of Nutrition and Dietetics Volume 61 Issue 1 (2008)
- \* 2 Journal of new remedies & clinics Volume 60 Issue 3 (2011)
- \* 3 Patent No.: 4383427 International Publication No.: WO2007 / 132900A1

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